

**Work Order ID 65467**

January 18, 2011 10:30:22 AM



Page 1

Item ID: D3475-7

Accept



Setup Start



Revision ID:

Stop



Item Name: Scoop Outlet

Start Date: 1/18/11 Start Qty: 5.00



Cust Item ID:

Required Date: 1/31/11 Req'd Qty: 5.00



Customer:

Reference:

Approvals: Process Plan: CL Date: 1/10/18 Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3475	Rev C								
100		0.00							
	PURCHASING								
Purchasing	Memo	0.00							
Purchasing	Issue P/O: <u>13313</u> For D3475-7S								
	Spin as per Dwg D3475								
	Possible Supplier: SIEG								
	Material release note is required								
110		0.00							
	Receive & Inspect for Damage & Mat'l Certs								
Packaging	Memo	0.00							
Packaging	Ensure material certification is attached								
120		0.00							
	QC6- Inspect dimensions to drawing								
QC	Memo	0.00							
Quality Control									

CL 1/10/18 (5)CL (5)CL (5)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**Work Order ID 65467**

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Item ID: D3475-7

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Setup Start



Revision ID:

Stop



Item Name: Scoop Outlet

Start Date: 1/18/11 Start Qty: 5.00



Cust Item ID:

Required Date: 1/31/11 Req'd Qty: 5.00



Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130		0.00							
	Small Fab								
Small Fab	Memo	0.00							
Small Fab	1-Scribe line at .180" Below center line of part 2-Rough Cut Part on Band Saw Leaving some Material. 3-Using DT8842 Angle Block, Sand Part on Disk Sander to Scribed line. 4-Transfer Punch Using DT8843, Then Drill as per Dwg D2475. 5-Deburr.								
140		0.00							
	QC5- Inspect part completeness to step on W/O								
QC	Memo	0.00							
Quality Control									
150		0.00							
	Identify as per dwg & Stock Location: _____								
Packaging	Memo	0.00							
Packaging									

11/02/07

Rev C

8402100

\*10

(1 part = 2 pcs)

Cup/s 10

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**Work Order ID 65467**

January 18, 2011 10:30:22 AM



Page 3

Item ID: D3475-7

Accept



Setup Start



Revision ID:

Stop



Item Name: Scoop Outlet

Start Date: 1/18/11 Start Qty: 5.00



Cust Item ID:

Required Date: 1/31/11 Req'd Qty: 5.00



Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

160



QC

Quality Control

QC21- Final Inspection - Work Order Release

0.00

Memo

0.00

11/02/08 JF

MF  
11-02-08

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

January 18, 2011 10:30:22 AM

Page 1

Work Order ID: 65467



Parent Item: D3475-7



Parent Item Name: Scoop Outlet


Start Date: 1/18/11

Required Date: 1/31/11

Start Qty: 5.00

Required Qty: 5.00

Comments: IPP Rev:A New Issue 06-01-31 JLM  
IPP Rev:B As per Rev B 06-05-24 JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D3475-7S  Scoop Outlet Flat Pattern		Purchased		No		110	Each	0.0000	1	5			



*Supp/2/5*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

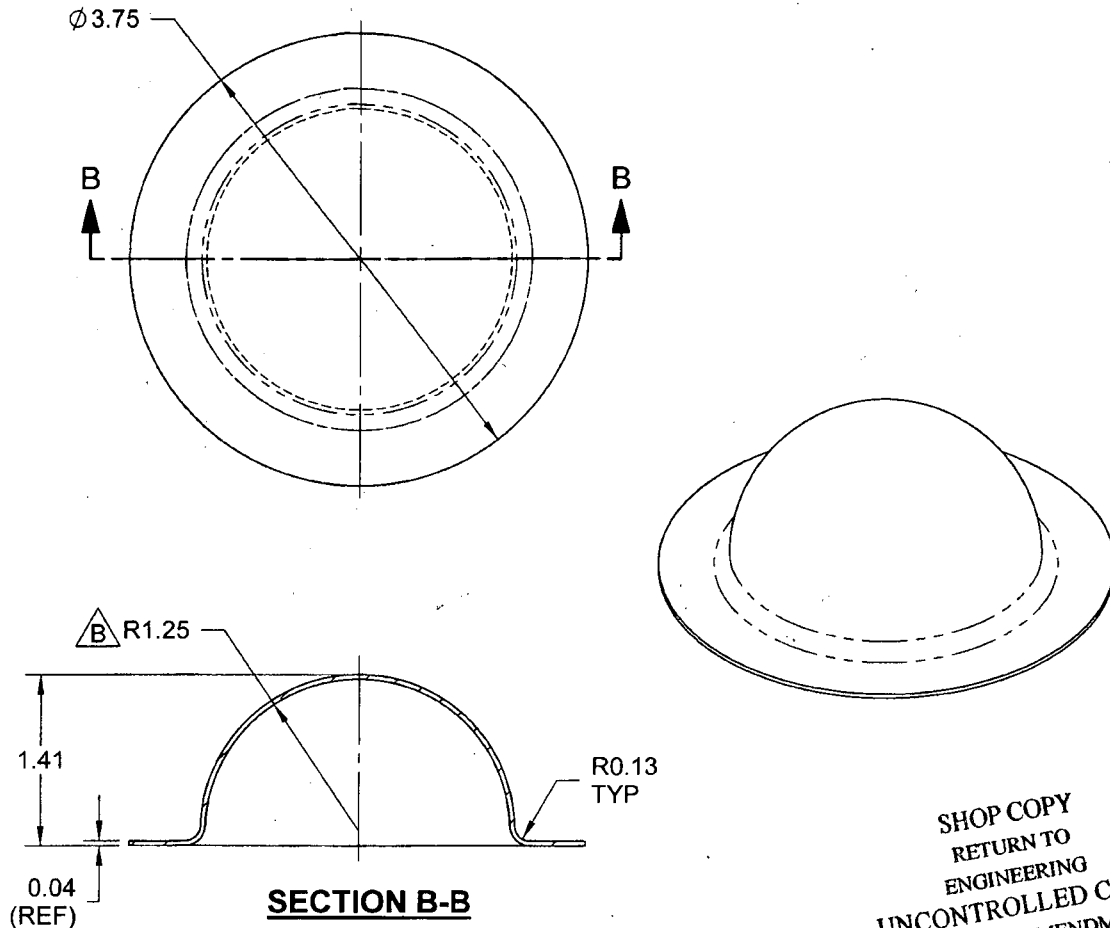
**NOTE:** Date & initial all entries





**DART**

DESIGN J	DRAWN BY J	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
CHECKED RH	APPROVED J	DRAWING NO. D3475	REV. C SHEET 5 OF 7
DATE 08.12.19		TITLE DUMP OUTLET	SCALE 1:1.5

**RELEASED**  
09/01/30 MP**D3475-7S SCOOP OUTLET, SPINNING DETAIL****NOTES:**

- 1) MATERIAL: 2024-0 ALUMINUM SHEET, 0.040" THICK PER AMS-QQ-A-250/4 OR AMS 4037 (REF. DART SPEC. M2024T0S.040)
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.010

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 65467

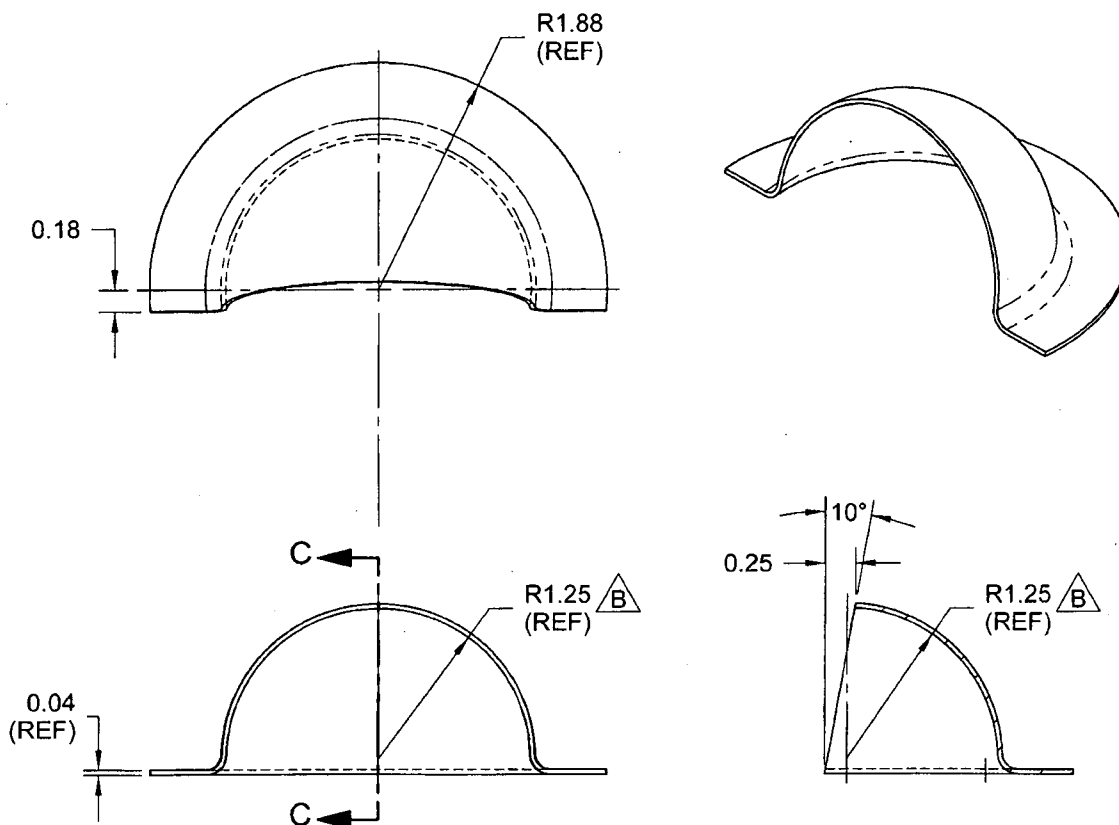
CZ 11/01/18

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**DART**

DESIGN <i>[Signature]</i>	DRAWN BY <i>[Signature]</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3475	REV. C SHEET 6 OF 7
DATE 08.12.19		TITLE DUMP OUTLET	SCALE 1:1.5

**RELEASED**  
09/01/30 MP**△ C D3475-7 SCOOP OUTLET****SECTION C-C**

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 65967

**NOTES:**

- 1) MATERIAL: MAKE FROM D3475-7S
- 2) IDENTIFY WITH DART P/N D3475-7 USING FINE POINT PERMANENT INK MARKER
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.010

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Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
Tel: 613 632 9577  
Fax: 613 632 1053

# PURCHASE ORDER

Purchase Order ID PO13313

Purchase Order Date 1/18/11

PO Print Date 1/18/11

Page Number 1 of 1

Order From :

VC-SIE001

SIEG'S MANUFACTURING LTD.  
6236 - 205 STREET  
LANGLEY, BC V2Y 1N7  
CA

Contact Name

Vendor Phone 604 530 7455

Vendor Fax 604 530 7490

Vendor Account Nbr

Buyer

Requisition Nbr

Tax Resale Nbr

Terms

Currency

FOB

Chantal Lavoie

10127-2607

Net 30

CAD

Destination-Collect

Ship To :

DART AEROSPACE LTD

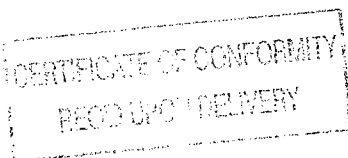
1270 ABERDEEN  
HAWKESBURY, ON K6A 1K7  
CANADA



Line Nbr	Reference Revision ID Vendor Part Number	Description/ Mfg ID	Req Date/ Taxable	Req Qty/ Unit of Measure	Ship Method	Unit Price	Extended Price
1	D3475-7S	Scoop Outlet Flat Pattern	1/26/11 Yes	5.00 Each	FedEx PI collect	\$6.5300	\$32.65

Special Inst: AS PER DWG D3475 REV. C  
B65467

PO Total: \$32.65



Change Nbr: 1

Change Date: 1/18/11

No substitution or deviation without  
consent.  
Certificate of Conformity or Material  
Certification required when applicable



# Sieg's Manufacturing Ltd. Packing Slip

Metal Spinning & Fabricating

6236 205 Street

Langley, BC, Canada V2Y 1N7

Phone:(604)530 7455 Fax:(604)530-7490

Packing Slip No.:

38783

Date:

02/02/2011

Page:

1

<b>Sold to:</b>		<b>Ship to:</b>	
DART AEROSPACE LTD. 1270 ABERDEEN STREET HAWKESBURY, ONTARIO K6A 1K7		DART AEROSPACE LTD. 1270 ABERDEEN STREET HAWKESBURY, ONTARIO K6A 1K7	
<b>Order No.:</b> (3313)		<b>Sold By:</b> KAULBARS, ARLA	
<b>Shipped By:</b>		<b>Ship Date:</b> 02/02/2011	
<b>Tracking No.:</b>			

Item No.	Unit	Description	Quantity
D3475-7S	Each	SCOOP OUTLET PATTERN  Sulox	5
Comment:			

**Sieg's Manufacturing Ltd.**

Metal Spinning and Fabricating

6236 - 205 STREET, LANGLEY, B.C. V2Y 1N7

TELEPHONE: (604) 530-7455 • FAX: (604) 530-7490

4P.  
Attn: Chantal

**INSPECTION REPORT**Date: Feb. 3/11Customer: Dart AreospacePacking Slip: 38783

Part#	Quantity	Material	Check holes	Debur edges	Insp. By
D3475-7S	5	2024-O	N/A	✓	⊗

Notes:

8/1/02/09

Alcoa # 12227690Material Certification Attached: ✓

9300534749  
CERTIFIED INSPECTION REPORT

9300534749 Alcoa Europe SA

We hereby certify that the material covered by this certificate has been inspected and has been found to meet the applicable requirements described herein, including any specifications forming a part of the description and that samples representative of the material meet the composition limits and had the mechanical properties according to the attached Certificate on Page 2.

Robert Baurin  
AISC Quality Assurance Manager

4/16/10

747281 0  
Ship Date 04-03-27 R.I. No. 15882694 Invoice No. 00000  
P.O. No./Govt Contract No. 12227640  
Customer No. 936153  
55C745

AISC Paul Warehouse

Ship From AISC - Paul, Belgium

Item Page 2

Ship To: No ship address found

Item Description

Alcolad 2024-O .040x18x144 IN FLAT SHEET MILL FINISH. PER AMS-QQ-A-250/5 A. QRR-001175 008, (THANKS) MAX PAPER INTERLEAVED

Item	Package Ticket	Lot	Weight	Quantity	UOM	Pc Id/Earl
1	56725	113635	2039	73	PC	

Notes for QRR: 0118812.5

PRODUCT PRODUCED AND MARKED TO THE REQUIREMENTS OF AMS-QQ-A-250/5 ALSO MEETS THE REQUIREMENTS OF QQ-A-250/5F, AMENDMENT 2. PRODUCT PRODUCED AND MARKED TO THE REQUIREMENTS OF QQ-A-250/5F, AMENDMENT 2 ALSO MEETS THE REQUIREMENTS OF AMS-QQ-A-250/5.

QRR: 0118812.5 -Specification Limits

Temp	Dir	UTS	TS	ELAD
0	Long Transv.	Max KSI 30.0	TSY KSI 14.0	PCF 12
		Min		
Temp	Dir	UTS <td>TS <td>ELAD</td> </td>	TS <td>ELAD</td>	ELAD
T42	Long Transv.	Max KSI 57.0	TSY KSI 34.0	PCF 15
		Min		
Temp	Dir	UTS <td>TS <td>ELAD</td> </td>	TS <td>ELAD</td>	ELAD
T62	Long Transv.	Max KSI 60.0	TSY KSI 47.0	PCF 5
		Min		

Chemical Composition	SI	FE	CU	MN	MG	CR	ZN	TI	Other	Other
Alloy 2024	Max 0.50	0.50	4.9	0.9	1.8	0.10	0.25	0.15	0.05	0.15
	Min		3.8	0.30	1.2					

Chemical Composition	SI+FE	CU	MN	MG	V	ZN	TI	Other	Other
LINER Alloy 1230	Max 0.70	0.19	0.05	0.05	0.05	0.10	0.03	0.03	99.30
	Min								

ACCEPTABLE, NOT A STRUCTURAL PART. 4/16/10

Find attached Certificate for Material Origin

55C745

MAR 27 2009

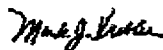
061632

## CERTIFIED INSPECTION REPORT

Alcoa Inc.

PITTSBURGH, PA DAVENPORT WORKS

We hereby certify that the material covered by this certificate has been inspected and found to meet the applicable requirements described therein, including any specifications forming a part of the description and any samples representative of the material that the composition tests and that the mechanical properties shown on the face of this sheet are for



Mark J. Struble  
Director of Manufacturing Davenport Works



Nathan P. Young  
Quality Assurance Manager

347281 0 Ship From: DAVENPORT, IA.  
Ship Date: H.L. No. Invoice No. Alcoa No. Item Page 2  
2007-03-27 15882694 00000 12427640  
P.O. No./Govt Contract No. Customer  
88CM-5400941973- ALENIA 006153

CQR: 0118812.5 - Material Origin Item Description -----  
.040 IN TH X 48.0 IN W X 144.0 IN LN AL28 A/F 2024-0 14-200BA AMS-QQ-A-250/5 RE  
V A. QRR-001175 REV 000 ((MARKED)) MAX PAPER INTERLEAVED CQR 0118812 REV 5

Lot: 113535 - Mechanical, Physical, Metallography, Quantometer Results -----

Temp	Dir	Mo ->	UTS	TYS	ELAD
0	Long Transv.	Test	KSI	KSI	PCT
		2	22.8	11.4	20.5
			23	11.5	20
Temp	Dir		UTS	TYS	ELAD
742	Long Transv.	2	KSI	KSI	PCT
			61.1	38.2	21.5
			62	38.6	21
Temp	Dir		UTS	TYS	ELAD
762	Long Transv.	2	KSI	KSI	PCT
			61.3	48.5	20.5
			61.3	47.7	11.5

Cast Number	Chemical	SI	FE	CU	MN	MG	CR	ZN	TI
39931015	Actuals	0.07	0.14	4.6	0.63	1.5	0.00	0.05	0.03

This material was melted in the United States or a Qualifying Country (RRP DPARS 225.872.11a1); it was manufactured in the United States



FORM: 1006

WORKORDER: 2401093731

# COPPER AND BRASS SALES

MATERIAL TYPE

ALUMINIUM ALLOYS

PRODUCT DESIGNATION

2014 2024 2224 2324 7050 7075 7150 7175 7475 ALUMEC 89 ALUMEC 99 QC-7

## "WARNING"

SMALL CHIPS, FINE TURNINGS AND DUST MAY IGNITE READILY. EXPLOSION POTENTIAL MAY BE PRESENT WHEN: DUST OR FINES ARE DISPERSED IN THE AIR; FINE, DUST OR MOLTEN ALUMINUM ARE IN CONTACT WITH CERTAIN METAL OXIDES; OR, CHIPS, FINES, DUST OR MOLTEN ALUMINUM ARE IN CONTACT WITH WATER OR MOISTURE. KEEP AWAY FROM IGNITION SOURCE. USE EXPLOSION-PROOF VENTILATION. KEEP MATERIAL DRY.

THIS PRODUCT CONTAINS BERYLLIUM AND COPPER. INHALING BERYLLIUM DUST OR FUMES MAY CAUSE CHRONIC BERYLLIUM DISEASE (CBD), A SERIOUS CHRONIC LUNG DISEASE IN SOME INDIVIDUALS. BERYLLIUM IS A CANCER HAZARD; OVER TIME CBD AND CANCER CAN BE FATAL. TARGET ORGAN IS PRIMARILY THE LUNG. INHALING LARGE AMOUNTS OF COPPER, MAGNESIUM OXIDE, MANGANESE OXIDE, AND ZINC OXIDE FUMES OR DUST MAY CAUSE METAL FUME FEVER WITH FLU-LIKE SYMPTOMS. CHRONIC OVEREXPOSURE TO COPPER MAY CAUSE THICKENING OF THE SKIN; AND SKIN, TEETH, AND HAIR DISCOLORATION. CHRONIC OVEREXPOSURE TO MANGANESE DUST CAN CAUSE CENTRAL NERVOUS SYSTEM DAMAGE, SCARRING OF THE LUNGS AND REPRODUCTIVE HARM IN MALES. TARGET ORGAN IS PRIMARILY THE LUNG, BUT REPEATED HIGH EXPOSURE CAN ALSO AFFECT THE LIVER. CHRONIC OVEREXPOSURE TO IRON OXIDE DUST/FUME MAY CAUSE LUNG SIDEROSIS. CHRONIC OVEREXPOSURE TO SILICON DUST CAN CAUSE CHRONIC BRONCHITIS. OVEREXPOSURE TO AMORPHOUS SILICA CAN CAUSE DRYING OF THE MUCOUS MEMBRANES OF THE EYES, NOSE, AND THROAT.

THIS PRODUCT ALSO CONTAINS NICKEL AND CHROMIUM COMPOUNDS. INHALATION OF NICKEL DUST OR FUME MAY RESULT IN INFLAMMATION OF THE RESPIRATORY TRACT AND CAUSE NASAL AND/OR LUNG CANCER. NICKEL HAS BEEN IDENTIFIED AS A POTENTIAL HUMAN CARCINOGEN. EXPOSURE TO CHROMIUM DUST OR FUMES MAY CAUSE METAL FUME FEVER WITH FLU-LIKE SYMPTOMS AND KIDNEY AND LIVER DAMAGE. UNDER HIGH TEMPERATURES, HEXAVALENT CHROMIUM MAY BE PRODUCED. IF IN THE INSOLUBLE FORM, IT IS A CONFIRMED HUMAN CARCINOGEN. (CALIFORNIA PROPOSITION 65).

IF COATED WITH OIL, MAY CAUSE SKIN IRRITATION/DERMATITIS BY CONTACT. WELDING FUME IS LISTED AS A POSSIBLE CARCINOGENIC TO HUMANS.

READ THE ALUMINUM/ALUMINIUM ALLOYS MATERIAL SAFETY DATA SHEET (MSDS) ON FILE WITH YOUR EMPLOYER BEFORE WORKING WITH THIS MATERIAL.

\* If processing or recycling produces particulate, use exhaust ventilation or other controls designed to prevent exposure to workers. Examples of such activities include melting, welding, grinding, abrasive sawing, sanding and polishing. Any activity which abrades the surface of this material can generate airborne particulate. Use appropriate NIOSH approved respiratory protection (P95; P100 for lead with, quantitative fit testing required) if exposures exceed the permissible limits.

\* The Occupational Safety and Health Administration (OSHA) have set mandatory limits on occupational exposures.

\* Aluminum, in solid form and as contained in finished products presents no special health risk.

\* Sold for manufacturing purposes only. This product can be recycled; contact your sales representative.

For additional information, call or write to Copper and Brass Sales, 22355 West Eleven Mile Road, Southfield, MI 48033, telephone 248-233-5600, or visit our web site @ [www.copperandbrass.com](http://www.copperandbrass.com).

ALUMINUM LABEL NO. 300-1056

ISSUED 10/01/2008